



pple
UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/678,207	09/20/2000	John V. Skinner JR.	GEMS8081.029	6319
27061	7590	04/06/2004	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, LLC (GEMS) 14135 NORTH CEDARBURG ROAD MEQUON, WI 53097			CAO, DIEM K	
			ART UNIT	PAPER NUMBER
			2126	//
DATE MAILED: 04/06/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

P-2

Office Action Summary	Application No.	Applicant(s)
	09/678,207	SKINNER ET AL.
	Examiner	Art Unit
	Diem K Cao	2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 December 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,2,15-24 and 31-33 is/are rejected.
 7) Claim(s) 3-14, 25-30, and 34-36 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is in response to the Amendment A filed on 12/22/2003.
2. Claims 1-37 remain in the application.

Allowable Subject Matter

3. Claims 3-14, 25-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 34-36 are allowed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 15-19 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) in view of Davidson (U.S. 5,630,136).
7. **As to claim 1,** APA teaches (pages 3-4) integrating an X Window visualization toolkit (Xt Intrinsic based visualization and graphics toolkit) with a JAVA application (Java application

Art Unit: 2126

or applet), providing a JAVA application thread that includes a call to an X Window visualization toolkit (Java application requests a schedule camera position ... is rotated), and an X Window X event loop (X event loop).

8. However, APA does not explicitly teach a Java process thread that comprises an X Window X event loop, and suspending execution of the X event loop to prevent concurrency related data corruption while a call to the X Window visualization toolkit is made by the JAVA application thread. Davidson teaches a process thread that comprises an X Window X event loop (a thread to run the baton X_event loop is created; col. 8, line 51 – col. 9, line 3), and only one thread is permitted to access the resource when there are multiple thread require access to the resource (toolkits; col. 1, lines 23-34 and Of the various threads ... unsafe resource; col. 5, line 52 – col. 7, line 23). Although Davidson does not teach a Java thread, Davidson teaches a thread in the object-oriented environment (Because of its object-oriented nature; col. 4, line 66 – col. 5, line 11). It would have been obvious the object-oriented in Davidson system could be Java environment.

9. It would have been obvious to apply the teaching of Davidson to the system of APA because it provides a technique for serializing access to multithreading unsafe resource (summary of the invention).

10. **As to claim 15**, APA teaches the toolkit comprises at least one widget (These object components are typically referred to as Widgets; page 3, second paragraph).

11. **As to claim 16**, APA teaches the at least one widget comprises a visualization/graphics object (user interface features ... drawing areas; page 3, second paragraph).

12. **As to claim 17**, although APA does not teach the Java application comprises a Java applet, it would have been obvious to one of ordinary skill in the art at the time the invention was made that Java is used to create applet because applets are small in files size, cross-platform compatible, and highly secure, they are ideal for small Internet applications accessible from a browser.

13. **As to claim 18**, see rejection of claim 1 above. However, APA does not explicitly teach providing a plurality of JAVA application threads that each include a call to an X Window visualization toolkit or widget, selecting one of the plurality of application threads to execute and then suspending execution of the remainder of the plurality of application threads. It is well known in the art that a Java application is a multi-thread application, one of ordinary skill in the art would be able to modify the Java application to have multiple threads each makes a call to the X Window toolkit. Davidson teaches only one thread could access the resource, and the rest of threads are suspended (Of the various threads ... unsafe resource; col. 5, line 52 – col. 7, line 23).

14. **As to claim 19**, see rejection of claims 1 and 18 above.

15. **As to claim 31,** APA teaches the call to the X Window visualization toolkit or widget comprises a call to an X Window Intrinsics based toolkit or widget (Xt Intrinsic based visualization and graphics toolkit, Java application requests a schedule camera position ... is rotated; pages 3-4).

16. **As to claim 32,** APA teaches the X Window Intrinsics based toolkit comprises VTK or a toolkit based on VTK (X Window visualization ... VTK ... X Toolkit Intrinsics; pages 2-3).

17. **As to claim 33,** APA does not explicitly teach the call to the X Window visualization toolkit or widget is made using the JAVA Native Interface. It is well known in the art that Java application uses JNI to make call to native methods. It would have been obvious the call to the X Window toolkit is made using the JNI.

18. Claims 2 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) in view of Davidson (U.S. 5,630,136) further in view of Lee (Adding External Input Sources to the X Toolkit Event Loop).

19. **As to claim 2,** APA does not teach the X event loop comprises an X Window file descriptor function that coordinates an X event loop blocking read that is used to suspend execution of the X event loop. Lee teaches the X Toolkit's XtAppAddInput () function adds file descriptor input handling (Unix File Descriptor Input; page 2). It would have been obvious to

one of ordinary skill in the art to apply the teaching of Lee to the system of APA because it would provide a method to add external input sources to the X Toolkit event loop.

20. **As to claim 20**, APA does not teach the X event loop performs a blocking read to suspend execution of the X event loop in step (c). Lee teaches the XtAppAddInput() function adds file descriptor input handling to the even loop by specify the file descriptor identifying the socket or pipe, the socket condition in which the application interested, and the callback function (Unix file descriptor input; page 2). It would have been obvious to apply the teaching of Lee to the system of APA because it provides a method to suspend a thread by condition.

21. **As to claim 21**, see rejection of claim 2 above.

22. **As to claim 22**, see rejection of claim 2 above.

23. **As to claim 23**, APA does not explicitly teach after step (b), an additional step comprising suspending execution of the one of the plurality of the application threads to allow the X event loop to finish processing any X event being processed by the X event loop before execution of the X even loop is suspended in step (c). APA teaches the X event loop makes call to the X Windows toolkit (also assume that the native ... dimensional scene; page 4), and Davidson teaches only one thread can access the toolkit (only the thread ... unsafe resource; col. 6, lines 25-37). It would have been obvious the application thread must be suspended while the X

event loop makes call to the toolkit because it provides a method for serializing access to multithreading resource.

24. As to claim 24, APA does not teach suspending execution of the one of the plurality of the application threads is accomplished by a blocking read that includes a read socket of the one of the plurality of application threads that receives a data element from a write socket of the X event loop. Lee teaches the XtAppAddInput() function adds file descriptor input handling to the even loop by specify the file descriptor identifying the socket or pipe, the socket condition in which the application interested, and the callback function (Unix file descriptor input; page 2).

Also see rejection of claim 20 above.

Response to Arguments

25. As to Applicant's arguments regarding examiner did not consider regarding Java does not provide direct support for Xt Intrinsics because it is typically written in C or C++, and there is no evidence to combine the teaching of APA and Davidson because Davidson does not mention Java at all, examiner respectfully disagrees because the reference of Davidson is used to teach creating a thread for the X event loop, and serialization resource access when there are multiple threads compete for the same resource. Davidson further teaches creating thread for the X event loop instead of utilizing the traditional X event loop (col. 9, lines 18-50). Although Davidson does not teach Java, Davidson teaches the invention is in object-oriented environment, one of ordinary skill in the art could apply the teaching of Davidson in the Java language environment.

Art Unit: 2126

Furthermore, Java provides JNI so Java applications could interface with native applications/libraries.

26. As to Applicant's arguments (page 17) regarding APA does not teach "a Java process thread that comprises an X Window X event loop", the rejection has been clarified to show Davidson teaches a thread is created for the X event loop (see rejection of claim 1 above).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K Cao whose telephone number is (703) 305-5220. The examiner can normally be reached on Monday - Thursday, 9:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450


MENG-AI T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100